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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,476	12/18/2000	Kavitha Vallari Devara	US 000397	4016

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EXAMINER	
SHANNON, MICHAEL R	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/739,476	DEVARA, KAVITHA VALLARI	
	Examiner	Art Unit	
	Michael R. Shannon	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 8, 2005 have been fully considered but they are not persuasive.

The Applicant presented one argument relating to the ability to compare time occurrences of two cues selected from the identified cues and the ability to determine the proximity of the occurrences of the two selected cues and classify the program based on the proximity of the occurrence of the two selected cues. The Applicant states, "Wei, Gang teaches a system wherein the duration of text (and face) information is used to determine the type of program". While Wei, Gang does teach that the duration of text is used to determine the type of program; he also teaches that a number (per unit time) of text occurrences are used to create a feature space (in other words, they are used to classify programs). The number per unit time of text occurrences in the program clearly reads on the proximity feature of two text cues (occurrences) and the ability to classify the program according to the proximity of the two text occurrences. Wei, Gang even states that text and faces often occur at the same time in news. In soaps and sitcoms text regions are rare, and usually there are many close-up face shots lasting for a long time in soaps while in sitcoms faces have smaller size and shorter duration. This realization clearly shows that Wei, Gang recognizes the need for tracking text (and face) occurrences and their proximity to one another for the purpose of classifying programs into feature spaces. The arguments relating to these features are therefore not persuasive.

The following art rejection, which is made FINAL, is mostly copied and pasted from the previous Office Action, with minor changes made to reflect current claim amendments.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Wei, Gang et al ("TV program classification based on face and text processing"), previously cited by applicant.

To serve as a brief overview, the Wei, Gang reference discloses a system for classification of TV programs based on face and text processing. In this instance, the face processing does not come into consideration; however, the text processing according to extracted transcript information comes into consideration when classifying input audio/video programs. Extracted text cues and domain-knowledge are used to aid in the classification process.

Regarding claim 1, the claimed "method for classification of a program" is met as follows:

- The claimed step of "receiving an audio/video signal corresponding to the program" is met by the statement that "consumers today are receiving increased numbers of channels" [page 1345, paragraph 2].
- The claimed step of "determining transcript information associated with the program using the audio/video signal" is met by the text tracking and extraction being performed on frames in order to extract and receive text from the video signal [page 1346, section 2.2].
- The claimed step of "identifying at least one cue in the transcript information and an associated time of occurrence, each of the cues being associated with a type of program" is met by the text that is a helpful cue in recognizing the type of a TV program [page 1345, paragraph 4]. Also, the trajectory being used in the text tracking method (section 2.2) notes a time of occurrence. Wei, Gang utilizes a "text tracking" to track text and to consider the text if it falls into an appropriate trajectory. In section 3.1, the reference states, "the number and average duration of the 'survived' trajectories constitute additional dimensions in the feature space." Wei, Gang teaches that a number (per unit time) of text occurrences are used to create a feature space (in other words, they are used to classify programs).
- The claimed step of "correlating the at least one cue identified in the transcript information to the type of program" is met by the inherent correlation between the text cues and the type of a TV programs

associated with the text cues. The reference states "text is a helpful cue in **recognizing** certain types of TV programs". This recognition of the TV program type inherently teaches a correlation between the text cue and the TV program type [page 1345, paragraph 4].

- The claimed step of "comparing the time of occurrence of two cues selected from the at least one identified cue and determining a proximity of occurrence of the two selected cues" is met by the same trajectory, which samples different text trackings and establishes, based on duration and number, if they should be utilized. The number per unit time of text occurrences in the program clearly reads on the proximity feature of two text cues (occurrences) and the ability to classify the program according to the proximity of the two text occurrences. Wei, Gang even states that text and faces often occur at the same time in news. In soaps and sitcoms text regions are rare, and usually there are many close-up face shots lasting for a long time in soaps while in sitcoms faces have smaller size and shorter duration. This realization clearly shows that Wei, Gang recognizes the need for tracking text (and face) occurrences and their proximity to one another for the purpose of classifying programs into feature spaces.
- The claimed step of "classifying the program based on the proximity of occurrence of the two selected cues" is met by the classification of a TV

program into a category based on the extracted text cue [page 1345, paragraph 4], and their proximity to one another, as discussed above.

Regarding claim 2, the claimed step of "receiving an audio/data/video signal which includes the transcript information" is met by page 1345, section 1, wherein the reference discloses the step of receiving an audio/video feed and extracting the transcript from the received audio/video feed.

Regarding claim 3, the claimed feature "wherein if the proximity of occurrence is greater than a predetermined amount, the two selected cues are ignored in connection with determining the program classification" is met by the trajectory, which classifies the program based on the proximity of the text occurrences. As the reference states, text and faces often occur at the same time in news. In soaps and sitcoms text regions are rare, and usually there are many close-up face shots lasting for a long time in soaps while in sitcoms faces have smaller size and shorter duration. This realization clearly shows that Wei, Gang recognizes the need for tracking text (and face) occurrences and their proximity to one another for the purpose of classifying programs into feature spaces. The claimed feature "wherein if the proximity of occurrence is not greater than the predetermined amount, the two selected cues are utilized in connection with determining the classification" is also met by the trajectory, which uses the number and average duration to establish which text trackings are utilized for classification.

Regarding claim 4, the claimed "classification of the program is one of a news program, talk show, sports program, panel discussions, interviews, and situational comedy" is met by the teaching of four categories, namely news, commercial, sitcom,

and soap (page 1345, paragraph 4). He also suggests that the system can be extended to recognize more categories by adding new classification rules.

Regarding claim 6, the claimed "apparatus for classification of a program" is met as follows:

- The claimed "receiver to receive an audio/data/video signal corresponding to the program" is met by the statement that "consumers today are receiving increased numbers of channels" [page 1345, paragraph 2].
- The claimed "transcript information extractor for extracting transcript information associated with the program from the audio/data/video input signal" is met by the text tracking and extraction being performed on frames in order to extract and receive text from the video signal [page 1346, section 2.2].
- The claimed "cue extractor for identifying at least one cue of a plurality of cues in the transcript information and an associated time of occurrence, each of the plurality of cues having associated therewith a type of program" is met by the text that is a helpful cue in recognizing the type of a TV program [page 1345, paragraph 4]. Also, the trajectory being used in the text tracking method (section 2.2) notes a time of occurrence. Wei, Gang utilizes a "text tracking" to track text and to consider the text if it falls into an appropriate trajectory. In section 3.1, the reference states, "the number and average duration of the 'survived' trajectories constitute additional dimensions in the feature space." Wei, Gang teaches that a

number (per unit time) of text occurrences are used to create a feature space (in other words, they are used to classify programs).

- The claimed "knowledge database for correlating the at least one cue of the plurality of cues identified in the transcript information to the type of program" is met by the inherent correlation between the text cues and the type of a TV programs associated with the text cues. The reference states "text is a helpful cue in **recognizing** certain types of TV programs". This recognition of the TV program type inherently teaches a correlation between the text cue and the TV program type [page 1345, paragraph 4].
- The claimed "temporal database for comparing the time of occurrence of two selected cues of the at least one cue to determine a proximity of occurrence of the two selected cues" is met by the same trajectory, which samples different text trackings and establishes, based on duration and number, if they should be utilized. The number per unit time of text occurrences in the program clearly reads on the proximity feature of two text cues (occurrences) and the ability to classify the program according to the proximity of the two text occurrences. Wei, Gang even states that text and faces often occur at the same time in news. In soaps and sitcoms text regions are rare, and usually there are many close-up face shots lasting for a long time in soaps while in sitcoms faces have smaller size and shorter duration. This realization clearly shows that Wei, Gang recognizes the need for tracking text (and face) occurrences and their

proximity to one another for the purpose of classifying programs into feature spaces.

- The claimed "classifier for classifying the program based on the proximity of occurrence" is met by the classification of a TV program into a category based on the extracted text cue [page 1345, paragraph 4], and their proximity to one another, as discussed above.

Regarding claim 7, see the above rejection to claim 3.

Regarding claim 8, the claimed "classification of the program is one of a news program, talk show, sports program, panel discussions, interviews, and situational comedy" is met by the teaching of four categories, namely news, commercial, sitcom, and soap (page 1345, paragraph 4). He also suggests that the system can be extended to recognize more categories by adding new classification rules.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei, Gang et al ("TV Program Classification Based on Face and Text Processing"), previously cited by applicant, in view of Wei, Qi et al ("Integrating visual, audio and text analysis for news video"), previously cited by examiner.

Regarding claim 5, the Wei, Gang et al reference discloses all of that which is discussed above with regards to claim 1. The Wei, Gang reference does not disclose, "Transcript information comprises closed-captioned text". The Wei, Qi reference discloses a similar situation to that of Wei, Gang, wherein the text information for classifying a news program comes in the form of close caption text [page 2, paragraph 2]. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize close caption text as the transcript information for the program to be classified, in order to utilize an already existing technology (close captioning) that is easy to parse and easy to work with for the purposes of classification.

Regarding claim 9, the Wei, Gang et al reference discloses all of that which is discussed above with regards to claim 6. The Wei, Gang reference does not disclose, "Transcript information comprises closed-captioned text". The Wei, Qi reference discloses a similar situation to that of Wei, Gang, wherein the text information for classifying a news program comes in the form of close caption text [page 2, paragraph 2]. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize close caption text as the transcript information for the program to be classified, in order to utilize an already existing technology (close captioning) that is easy to parse and easy to work with for the purposes of classification.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Shannon who can be reached at (571) 272-7356 or Michael.Shannon@uspto.gov. The examiner can normally be reached by phone Monday through Friday 8:00 AM – 5:00PM, with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at (571) 272-7353.

Any response to this action should be mailed to:

Please address mail to be delivered by the United States Postal Service (USPS) as follows:

Mail Stop _____
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Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and

Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

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Some correspondence may be submitted electronically. See the Office's Internet Web site http://www.uspto.gov for additional information.

Or faxed to: (571) 273-8300

Hand-delivered responses should be brought to:

Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **(571) 272-2600**.

Michael R Shannon
Examiner
Art Unit 2614

Michael R Shannon
November 18, 2005

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600